



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

OCT 30 2017

Mr. Eric Stevenson  
Director of Technical Services  
Bay Area Air Quality Management District  
375 Beale Street  
San Francisco, California 94105

Dear Mr. Stevenson:

Thank you for your submission of the Bay Area Air Quality Management District's (BAAQMD's) 2016 *Air Monitoring Network Plan* on June 29, 2017. We have reviewed the submitted document based on the requirements set forth under 40 CFR 58. Based on the information provided in the plan, the U.S. Environmental Protection Agency (EPA) approves all portions of the network plan except those specifically identified below. With this plan approval, we also formally approve the waiver to locate your required PAMS site at Livermore (AQS ID: 06-001-0007) rather than at San Jose-Jackson (AQS ID: 06-085-0005). We are also transmitting approval from the Office of Air Quality Planning and Standards (OAQPS) of your request for a waiver to operate a NO<sub>x</sub> monitor in lieu of NO<sub>y</sub> at San Jose-Jackson, in order to locate the NO<sub>y</sub> monitor at Livermore to support PAMS. More information about these approvals is in Enclosures D and E.

Please note that we cannot approve portions of the annual network plan for which the information in the plan is insufficient to judge whether the requirement has been met, or for which the information, as described, does not meet the requirements as specified in 40 CFR 58.10 and the associated appendices. EPA Region 9 also cannot approve portions of the plan for which the EPA Administrator has not delegated approval authority to the regional offices. Accordingly, the first enclosure (*A. Annual Monitoring Network Plan Items where EPA is Not Taking Action*) provides a listing of specific items of your agency's annual monitoring network plan where EPA is not taking action. The second enclosure (*B. Additional Items Requiring Attention*) is a listing of additional items in the plan that EPA wishes to bring to your agency's attention.

The third enclosure (*C. Annual Monitoring Network Plan Checklist*) is the checklist EPA used to review your plan for overall items that are required to be included in the annual network plan along with our assessment of whether the plan submitted by your agency addresses those requirements. The fourth enclosure (*D. EPA approval of the waiver request to locate PAMS at Livermore*) documents EPA's approval of the request for a waiver to locate your required PAMS site at Livermore rather than at San Jose-Jackson, as requested in Appendix H of your plan. The fifth and final enclosure (*E. EPA approval of an NO<sub>y</sub> waiver at San Jose-Jackson*) includes a copy of correspondence between EPA Region 9 and EPA OAQPS discussing and granting

approval of a waiver to operate a NO<sub>x</sub> monitor in lieu of NO<sub>y</sub> at San Jose-Jackson, based on the information provided in Appendices F and H and elsewhere in your plan.

The first two enclosures highlight a subset of the more extensive list of items reviewed in the third enclosure. All comments conveyed via this letter (and enclosures) should be addressed (through corrections within the plan, additional information being included, or discussion) in next year's annual monitoring network plan.

If you have any questions regarding this letter or the enclosed comments, please feel free to contact me at (415) 947-4134 or Anna Mebust at (415) 972-3265.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Gwen Yoshimura', followed by a long horizontal line extending to the right.

Gwen Yoshimura, Manager  
Air Quality Analysis Office

Enclosures:

- A. Annual Monitoring Network Plan Items where EPA is Not Taking Action
- B. Additional Items Requiring Attention
- C. Annual Monitoring Network Plan Checklist
- D. EPA approval of the waiver request to locate PAMS at Livermore
- E. EPA correspondence and approval of an NO<sub>y</sub> waiver at San Jose-Jackson

cc (via email): Charley Knoderer, BAAQMD

Gayle Sweigert, California Air Resources Board (CARB)

Sunghoon Yoon, CARB

Ranjit Bhullar, CARB

### **A. Annual Monitoring Network Plan Items where EPA is Not Taking Action**

We are not acting on the portions of annual network plans where either EPA Region 9 lacks the authority to approve specific items of the plan, or EPA has determined that a requirement is either not met or information in the plan is insufficient to judge whether the requirement has been met.

- EPA identified items in your agency's annual monitoring network plan where a requirement was not being met or information in the plan was insufficient to judge whether the requirement was being met based on 40 CFR 58.10 and the associated appendices. Therefore, we are not acting on the following items:

| Item   | Checklist Row | Issue                                   |
|--|---------------|---|
| Minimum # of monitors for non-NCORE Pb   | 34            | Not meeting requirement                 |
| Distance between QA collocated monitors  | 14            | Insufficient to judge in one instance   |
| Site type  | 67            | Incorrect in one instance               |
| Monitor type   | 68            | Incorrect in one instance               |
| Probe height   | 76            | Insufficient to judge in one instance   |
| Distance from drip line of closest tree(s)                                       | 80            | Not meeting requirement in one instance |
| Statement of whether the operation of each monitor meets Appendices requirements | 3             | Insufficient to judge                   |
| Statement regarding SPMs and Appendices A and E                                  | 10            | Insufficient to judge in some instances |

Additional information for each of these items may be found for the row listed in column 2, in the third enclosure (*C. Annual Monitoring Network Plan Checklist*).



## B. Additional Items Requiring Attention

- [Items 47 and 48] While BAAQMD is meeting the requirement, Table 2-14 lists the number of required area-wide monitors for the San Francisco-Oakland-Hayward MSA as 1, and states in a footnote that while both a highest concentration site and an RA40 site are required, these may be met by the same site. As described in 40 CFR 58 App D 4.3.4(a), the RA40 required sites are in addition to the other minimum monitoring requirements, and the number of required area-wide sites for the MSA should therefore be 2. Please update this in next year's plan.
- [Item 65] Please provide the POC for PM<sub>10-2.5</sub> at San Jose – Jackson in next year's plan.
- [Item 66] Crockett SO<sub>2</sub>, Oakland O<sub>3</sub>, San Pablo O<sub>3</sub>, San Rafael O<sub>3</sub> are listed with a monitoring type of "NAAQS comparison" in the plan. These sites are all SPMs that do not meet siting requirements in Appendix E and therefore NAAQS comparison is not an appropriate objective. Please change the monitoring objective in next year's plan for these sites.

Similarly, the monitoring objective for Berkeley Aquatic Park O<sub>3</sub> should not be NAAQS comparison. See checklist item # 68.

- [Item 67] EPA recommends that BAAQMD continue to evaluate whether Oakland West PM<sub>2.5</sub> monitor should have a "highest concentration" monitor site type. The monitor has been in operation since late 2012, and while it has only had two complete DVs, both were the highest DV for the CBSA. If Oakland West continues to have among the highest PM<sub>2.5</sub> DVs for the CBSA, a site type of "highest concentration" may be appropriate. Note that multiple monitors in a CBSA may have this site type and labeling Oakland West as such does not preclude other sites in the CBSA from having the same site type.

EPA also recommends evaluating the site type for the Berkeley Aquatic Park O<sub>3</sub> monitor, in the context of other changes recommended in this checklist for that monitor. See checklist item #68.

- [Item 69] The Berkeley Aquatic Park O<sub>3</sub> monitor is listed as "urban" scale. Based on the distance to nearest road and traffic count, this monitor does not meet requirements for an urban scale O<sub>3</sub> monitor, and should be listed as micro or middle scale. Please update this in next year's plan. See checklist item #68.
- [Item 73] The distance to road for Berkeley Aquatic Park currently says "approximately based on latest siting plans." This site is now operational. Please update this in next year's plan with the confirmed distance to the nearest road.
- [Item 77] The PM<sub>2.5</sub> monitor at San Jose – Knox is listed as >1m from supporting structure. All other BAAQMD PM<sub>2.5</sub> monitors list the distance from supporting structure as >2m. EPA also recommends all PM instruments be at least 2.0 ± 0.2 m from

supporting structures. Please clarify the distance from supporting structure for this monitor in next year's plan.

- [Item 82] Please clarify whether the predominant wind direction is included in the 270 degrees of unobstructed airflow for Bethel Island in next year's plan.

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## C. ANNUAL MONITORING NETWORK PLAN CHECKLIST

(Updated February 9, 2017)

Year: 2017

Agency: Bay Area Air Quality Management District (BAAQMD)

40 CFR 58.10(a)(1) requires that each Annual Network Plan (ANP) shall provide for the documentation of the establishment and maintenance of an air quality surveillance system that consists of a network of SLAMS monitoring stations that can include FRM, FEM, and ARM monitors that are part of SLAMS, NCore, CSN, PAMS, and SPM stations.

40 CFR 58.10(a)(1) further directs that, "The plan shall include a statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D, and E of this part, where applicable. The Regional Administrator may require additional information in support of this statement." On this basis, review of the ANPs is based on the requirements listed in 58.10 along with those in Appendices A, C, D, and E.

EPA Region 9 will not take action to approve or disapprove any item for which Part 58 grants approval authority to the Administrator rather than the Regional Administrators, but we will do a check to see if the required information is included and correct. The items requiring approval by the Administrator are: PAMS, NCore, and Speciation (STN/CSN).

Please note that this checklist summarizes many of the requirements of 40 CFR Part 58, but does not substitute for those requirements, nor do its contents provide a binding determination of compliance with those requirements. The checklist is subject to revision in the future and we welcome comments on its contents and structure.

Key:

|        |  |
|--------|--|
| White  | meets the requirement  |
| Yellow | requirement is not met, or information is insufficient to make a determination. Action requested in next year's plan or outside the ANP process (items listed in Enclosure A). |
| Green  | item requires attention in order to improve next year's plan (items listed in Enclosure B).  |



|                                  | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup>                | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|----------------------------------|---|---|--|---|--|
| <b>GENERAL PLAN REQUIREMENTS</b> |   |   |  |   |  |
| 1.                               | Submit plan by July 1 <sup>st</sup>   | 58.10 (a)(1)  | Yes, Cover Letter/<br>email transmittal                      | Yes   | Plan was submitted June 29, 2017.  |
| 2.                               | 30-day public comment / inspection period   | 58.10 (a)(1);<br>58.10 (c)                            | Yes, email<br>transmittal                                    | Yes   | One comment received but was not substantive. See table on comments at the end of this enclosure.  |
| 3.                               | Statement of whether the operation of each monitor meets the requirements of appendices A, B, C, D, and E, where applicable | 58.10 (a)(1)  | No   | Insufficient to judge   | No statement was provided to meet this requirement.<br><br>This checklist item is newly required as part of the 2016 Monitoring Rule Revisions. In future plans, please address this requirement. If the plan already discusses all deviations of the monitors from requirements in the 40 CFR 58 Appendices, the addition of the following sentence is sufficient: "Except where otherwise noted, each monitor meets the requirements of appendices A, B, C, D, and E, where applicable." |
| 4.                               | Modifications to SLAMS network – case when we are not approving system modifications  | 58.10 (a)(2);<br>58.10 (b)(5);<br>58.10 (e);<br>58.14 | NA   | NA  |  |

<sup>1</sup> Unless otherwise noted.

<sup>2</sup> Response options: NA (Not Applicable), Yes, No, or Incomplete.

<sup>3</sup> Assuming the information is correct.

<sup>4</sup> Response options: NA (Not Applicable) – [reason], Yes, No, Insufficient to Judge, or Incorrect



|    | ANP requirement  | Citation within 40 CFR 58 <sup>1</sup>                | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes   |
|----|--|---|--|---|---|
| 5. | Modifications to SLAMS network – case when we are approving system modifications per 58.14   | 58.10 (a)(2);<br>58.10 (b)(5);<br>58.10 (e);<br>58.14 | Yes, pages 52-55, Appendix F, Appendix H                     | Yes   | <p>EPA is approving BAAQMD's request for a waiver to locate PAMS measurements at Livermore instead of at San Jose – Jackson. See Enclosure D. EPA acknowledges that BAAQMD has submitted a PAMS Network Implementation Plan and has met the statutory deadline in 40 CFR 50.10(a)(10) to provide this information by July 1, 2018.</p> <p>EPA is also transmitting approval from the Office of Air Quality Planning and Standards (OAQPS) of BAAQMD's request for a waiver to measure NO<sub>x</sub> in lieu of NO<sub>y</sub> at San Jose – Jackson. We have included a copy of EPA Region 9's memo recommending approval, as well as the approval from OAQPS, in Enclosure E.</p> <p>Note that BAAQMD terminated O<sub>3</sub> and NO<sub>2</sub> SPMs at Patterson Pass in March of 2017. As the O<sub>3</sub> monitor was an SPM that operated for fewer than 24 months, and the NO<sub>2</sub> monitor was not NAAQS comparable due to seasonal sampling, EPA approval was not required for closure.</p> |
| 6. | Does plan include documentation (e.g., attached approval letter) for system modifications that have been approved since last ANP approval? |   | NA   | NA  | No system modifications have been approved since the last ANP approval. BAAQMD included documentation for relocation of the Napa site, which was approved by EPA in June 2015 and has not yet been completed. See Appendix G of BAAQMD's plan.  |
| 7. | Any proposals to remove or move a monitoring station within a period of 18 months following plan submittal                                 | 58.10 (b)(5)  | Yes, pages 52-55, Detailed Station Info                      | Yes   |   |
| 8. | Precision/Accuracy reports submitted to AQS  | 58.16 (a)   | Yes, page 57   | Yes   |   |
| 9. | Annual data certification submitted  | 58.15   | Yes, page 57   | Yes   |   |

|  | ANP requirement  | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|--|--|--|--|---|--|
| 10.  | Statement that SPMs operating an FRM/FEM/ARM that meet Appendix E also meet either Appendix A or an approved alternative. Documentation for any Appendix A approved alternative should be included. <sup>5</sup> | 58.11 (a)(2)                           | Incomplete, Detailed Station Info                            | Insufficient to judge in some instances                                       | A statement regarding whether SPMs meet Appendix E and Appendix A or an approved alternative was only provided for SPMs at Patterson Pass and San Ramon. No statement was provided for other SPMs operated by BAAQMD. This statement is needed independent of documentation of other deviations from 40 CFR 58 requirements, such as sampling frequency requirements.<br><br>Please note that addressing checklist item #3 will also address this item, as long as any approved alternatives to Appendix A requirements for an SPM are documented in the plan. |
| 11.  | SPMs operating FRM/FEM/ARM monitors for over 24 months are listed as comparable to the NAAQS or the agency provided documentation that requirements from Appendices A, C, or E were not met. <sup>6</sup>        | 58.20 (c)                              | Yes, Detailed Station Info                                   | Yes   | San Ramon and Patterson Pass NO <sub>2</sub> monitors meet requirements in Appendices A, C, and E; however, BAAQMD operated these SPMs seasonally, and as a result they are unable to meet completeness requirements for any NO <sub>2</sub> NAAQS. Therefore it is appropriate that these monitors are not listed as comparable to the NAAQS.   |
| 12.  | For agencies that share monitoring responsibilities in an MSA/CSA: this agency meets full monitoring requirements or an agreement between the affected agencies and the EPA Regional Administrator is in place   | App D 2(e)                             | Yes, page 19, Appendices A, B, C, and D                      | Yes   | See checklist item #29 for additional information on a potential future monitoring agreement for PM <sub>10</sub> in the Santa Rosa MSA.   |
| <b>GENERAL PARTICULATE MONITORING REQUIREMENTS (PM<sub>10</sub>, PM<sub>2.5</sub>, Pb-TSP, Pb-PM<sub>10</sub>)</b> |  |  |  |   |  |
| 13.  | Designation of a primary monitor if there is more than one monitor for a pollutant at a site.  | App. A 3.2.3                           | Yes, Detailed Station Info                                   | Yes   |  |

<sup>5</sup> Alternatives to the requirements of appendix A may be approved for an SPM site as part of the approval of the annual monitoring plan, or separately.

<sup>6</sup> This requirement only applies to monitors that are eligible for comparison to the NAAQS per 40 CFR §§58.11(e) and 58.30.



|   | <b>ANP requirement</b>   | <b>Citation within 40 CFR 58<sup>1</sup></b> | <b>Was the information submitted?<sup>2</sup> If yes, page #s.</b> | <b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b> | <b>Notes</b>   |
|---|--|--|--|--|--|
| 14.   | Distance between QA collocated monitors. For low volume PM instruments (flow rate < 200 liters/minute) > 1 m. For high volume PM instruments (flow rate > 200 liters/minute) > 2m. [Note: waiver request or the date of previous waiver approval must be included if the distance deviates from requirement.]          | App. A 3.2.3.4 (c) and 3.3.4.2 (c)           | Yes, Detailed Station Info   | Insufficient to judge in one instance  | Distance between primary and collocated PM <sub>10</sub> monitors at San Pablo is missing in the Detailed Station Info table and is not available elsewhere in the plan.   |
| <b>PM<sub>2.5</sub> –SPECIFIC MONITORING REQUIREMENTS</b> |  |  |  |  |  |
| 15.   | Document how states and local agencies provide for the review of changes to a PM <sub>2.5</sub> monitoring network that impact the location of a violating PM <sub>2.5</sub> monitor.  | 58.10 (c)                                    | Yes, pages 56-57   | Yes  |  |
| 16.   | Identification of any PM <sub>2.5</sub> FEMs and/or ARMs not eligible to be compared to the NAAQS due to poor comparability to FRM(s) [Note 1: must include required data assessment.] [Note 2: Required SLAMS must monitor PM <sub>2.5</sub> with <u>NAAQS</u> -comparable monitor at the required sample frequency.] | 58.10 (b)(13)<br>58.11 (e)                   | NA   | NA   |  |
| 17.   | Minimum # of monitoring sites for PM <sub>2.5</sub> [Note 1: should be supported by MSA ID, MSA population, DV, # monitoring sites, and # required monitoring sites] [Note 2: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.]               | App. D 4.7.1(a) and Table D-5                | Yes, page 26   | Yes  | BAAQMD has listed PM <sub>2.5</sub> minimum monitoring requirements in Table 2-5 based on 2010 census data; the Santa Rosa MSA population estimate for 2015 is over 500,000 (as shown in Table 2-3), which would change the number of required sites for the MSA from 0 to 1. BAAQMD already operates one PM <sub>2.5</sub> monitor in the MSA and therefore meets the requirement regardless of which population dataset is used. |
| 18.   | Requirements for continuous PM <sub>2.5</sub> monitoring (number of monitors and collocation)  | App. D 4.7.2                                 | Yes, pages 23, 26  | Yes  |  |
| 19.   | FRM/FEM/ARM PM <sub>2.5</sub> QA collocation   | App. A 3.2.3                                 | Yes, page 32   | Yes  |  |
| 20.   | PM <sub>2.5</sub> Chemical Speciation requirements for official STN sites  | App. D 4.7.4                                 | Yes, page 173-174  | Yes  |  |
| 21.   | Identification of sites suitable and sites not suitable for comparison to the annual PM <sub>2.5</sub> NAAQS as described in Part 58.30  | 58.10 (b)(7)                                 | Yes, Detailed Station Info   | Yes  |  |



|     | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|-----|---|--|--|---|--|
| 22. | Required PM <sub>2.5</sub> sites represent area-wide air quality  | App. D 4.7.1(b)                        | Yes, page 62, Detailed Station Info                          | Yes   |  |
| 23. | For PM <sub>2.5</sub> , within each MSA, at least one site at neighborhood or larger scale in an area of expected maximum concentration   | App. D 4.7.1(b)(1)                     | Yes, pages 26, 28-31, Detailed Station Info                  | Yes   | <p>In previous years, EPA has commented that BAAQMD's current PM<sub>2.5</sub> network may not be adequately reflecting woodsmoke as a significant source category. In response, BAAQMD has included an analysis of black carbon data available from the Forest Knolls SPM to provide an estimate of expected PM<sub>2.5</sub> concentrations at the site in this year's plan.</p> <p>On page 30 of the plan, BAAQMD states that their results "show that PM<sub>2.5</sub> concentrations at Forest Knolls are expected to be similar to that already measured at other sites in the same MSA." EPA finds that BAAQMD has provided sufficient supporting information that it is meeting the requirement for a maximum PM<sub>2.5</sub> concentration site in this MSA. EPA encourages BAAQMD to continue to conduct special project monitoring in other areas in BAAQMD's jurisdiction that may be influenced by residential woodsmoke or other important sources of PM<sub>2.5</sub> and PM<sub>2.5</sub> precursors.</p> |
| 24. | If additional SLAMS PM <sub>2.5</sub> is required, there is a site in an area of poor air quality   | App. D 4.7.1(b)(3)                     | NA   | NA  |  |
| 25. | States must have at least one PM <sub>2.5</sub> regional background and one PM <sub>2.5</sub> regional transport site.  | App. D 4.7.3                           | Yes, page 31   | NA  | While this is a state requirement, BAAQMD does indicate transport PM <sub>2.5</sub> sites within their PQAO. BAAQMD does not have a regional background site.  |
| 26. | Sampling schedule for PM <sub>2.5</sub> - applies to year-round and seasonal sampling schedules (note: date of waiver approval must be included if the sampling season deviates from requirement) | 58.10 (b)(4); 58.12(d); App. D 4.7     | Yes, Detailed Station Info                                   | Yes   | BAAQMD's PM <sub>2.5</sub> monitors are continuously operating, with the exception of the QA collocated FRM at San Jose-Jackson. This site meets the requirement for manual samplers at NCore sites to sample at 1:3 frequency. The STN-affiliated speciation sampler at San Jose-Jackson also samples at the required 1:3 frequency.  |
| 27. | Frequency of flow rate verification for automated and manual PM <sub>2.5</sub> monitors   | App. A 3.2.1                           | Yes, Detailed Station Info                                   | Yes   |  |

|     | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes |
|-----|---|--|--|---|-------|
| 28. | Dates of two semi-annual flow rate audits conducted in <b>CY2016</b> for PM <sub>2.5</sub> monitors [Note: 5 -7 month interval is recommended but not a requirement.] | App. A 3.2.2                           | Yes, Detailed Station Info                                   | Yes   |       |

#### PM<sub>10</sub> –SPECIFIC MONITORING REQUIREMENTS

|     |  |                                    |                                     |     |  |
|-----|--|------------------------------------|-------------------------------------|-----|--|
| 29. | Minimum # of monitoring sites for PM <sub>10</sub> [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.] | App. D, 4.6 (a) and Table D-4      | Yes, pages 32-35                    | Yes | As identified in footnote c of Table 2-10, while BAAQMD has listed requirements based on 2010 census data, the Santa Rosa MSA population estimate for 2015 is over 500,000, which would change the number of required sites for the MSA from 0-1 to 1-2. BAAQMD does not operate any PM <sub>10</sub> monitors in the MSA, but Northern Sonoma APCD operates three monitors in the MSA. BAAQMD is considering developing a PM <sub>10</sub> monitoring agreement with Northern Sonoma APCD as part of the next Network Assessment to address this change in minimum monitoring requirements. |
| 30. | Manual PM <sub>10</sub> method collocation (note: continuous PM <sub>10</sub> does not have this requirement)  | App. A 3.3.4                       | Yes, page 35                        | Yes | The PM <sub>10</sub> collocated monitor was moved from Napa to San Pablo.  |
| 31. | Sampling schedule for PM <sub>10</sub>   | 58.10 (b)(4); 58.12(e); App. D 4.6 | Yes, page 33, Detailed Station Info | Yes | Note that BAAQMD operates four PM <sub>10</sub> SPMs at a decreased sampling frequency of 1:12. These monitors are not counted toward meeting minimum monitoring requirements. BAAQMD's SLAMS sites meet the sampling frequency requirements.  |
| 32. | Frequency of flow rate verification for automated and manual PM <sub>10</sub> monitors   | App. A 3.3.1 and 3.3.2             | Yes, Detailed Station Info          | Yes |  |
| 33. | Dates of two semi-annual flow rate audits conducted in <b>CY2016</b> for PM <sub>10</sub> monitors [Note: 5 -7 month interval is recommended but not a requirement.]                 | App. A 3.3.3                       | Yes, Detailed Station Info          | Yes |  |



|   | ANP requirement  | Citation within 40 CFR 58 <sup>1</sup>                    | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|---|--|---|--|---|--|
| <b>Pb –SPECIFIC MONITORING REQUIREMENTS</b> |  |   |  |   |  |
| 34.   | Minimum # of monitors for non-NCore Pb [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.] | App D 4.5   | Yes, p. 50-52  | No  | <p>The Palo Alto site was closed on December 23, 2014 due to lease termination. During FAA review it was determined that the lead sampler location did not meet FAA regulations. Monitoring at the airport has not resumed. BAAQMD indicates they are continuing to work with EPA to find a suitable alternative.</p> <p>Also, while fully operational for 2016, the San Carlos Airport II site was discontinued as of April 11, 2017. BAAQMD is no longer allowed access to the site due to an expired lease. BAAQMD indicates they have been unable to renegotiate the lease due to circumstances beyond their control. BAAQMD and EPA will work together to determine a path forward.</p> |
| 35.   | Pb collocation: for non-NCore sites  | App A 3.4.4 and 3.4.5                                     | Yes, p. 52   | Yes   | While BAAQMD met this requirement for 2016, note that the termination of the San Carlos Airport II site in April 2017 also terminated operation of the QA collocated monitor.  |
| 36.   | Any source-oriented Pb site for which a waiver has been granted by EPA Regional Administrator  | 58.10 (b)(10)   | NA   | NA  | No waivers for required source-oriented monitors have been requested or granted.   |
| 37.   | Any Pb monitor for which a waiver has been requested or granted by EPA Regional Administrator for use of Pb-PM <sub>10</sub> in lieu of Pb-TSP                           | 58.10 (b)(11)   | NA   | NA  |  |
| 38.   | Designation of any Pb monitors as either source-oriented or non-source-oriented  | 58.10 (b)(9)  | Yes, Detailed Station Info                                   | Yes   |  |
| 39.   | Sampling schedule for Pb   | 58.10 (b)(4); 58.12(b); App A 3.4.4.2 (c) and 3.4.5.3 (c) | Yes, Detailed Station Info                                   | Yes   |  |
| 40.   | Frequency of flow rate verification for Pb monitors audit  | App A 3.4.1 and 3.4.2                                     | Yes, Detailed Station Info                                   | Yes   |  |



|  | ANP requirement  | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes   |
|--|--|--|--|---|---|
| 41.  | Dates of two semi-annual flow rate audits conducted in <b>CY2016</b> for Pb monitors<br>[Note: 5 -7 month interval is recommended but not a requirement.]  | App A 3.4.3                            | Yes, Detailed Station Info                                   | Yes   |   |
| <b>GENERAL GASEOUS MONITORING REQUIREMENTS</b>         |  |  |  |   |   |
| 42.  | Frequency of one-point QC check (gaseous)  | App. A 3.1.1                           | Yes, Detailed Station Info                                   | Yes   |   |
| 43.  | Date of Annual Performance Evaluation (gaseous) conducted in <b>CY2016</b>   | App. A 3.1.2                           | Yes, Detailed Station Info                                   | Yes   |   |
| <b>O<sub>3</sub> –SPECIFIC MONITORING REQUIREMENTS</b> |  |  |  |   |   |
| 44.  | Minimum # of monitoring sites for O <sub>3</sub> [Note 1: should be supported by MSA ID, MSA population, DV, # monitoring sites, and # required monitoring sites] [Note 2: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.] [Note 3: monitors that do not meet traffic count/distance requirements to be neighborhood or urban scale (40 CFR Appendix E, Table E-1) cannot be counted towards meeting minimum monitoring requirements] | App D 4.1(a) and Table D-2             | Yes, pages 20-21   | Yes   |   |
| 45.  | Identification of maximum concentration O <sub>3</sub> site(s)   | App D 4.1 (b)                          | Yes, page 20   | Yes   | Highest concentration sites are identified for each MSA in the table on page 20. See checklist item #67 for comments regarding designation of highest concentration O <sub>3</sub> sites in the Detailed Station Info tables.     |
| 46.  | Sampling season for O <sub>3</sub> (Note: Waivers must be renewed annually. EPA expects agencies to submit re-evaluations of the relevant data each year with the ANP. EPA will then respond as part of the ANP response.)   | 58.10 (b)(4); App D 4.1(i)             | Yes, page 21, Appendix E                                     | Yes   | The EPA previously approved a waiver for shorter ozone season monitoring at Fairfield, Gilroy, Hayward, San Martin, and Los Gatos in 2016 and 2017. The waiver request and EPA approval are found in Appendix E of BAAQMD's plan. |

|   | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes   |
|---|---|--|--|---|---|
| <b>NO<sub>2</sub> – SPECIFIC MONITORING REQUIREMENTS</b>                                  |   |  |  |   |   |
| 47.   | Minimum monitoring requirements for area-wide NO <sub>2</sub> monitor in location of expected highest NO <sub>2</sub> concentrations representing neighborhood or larger scale (operation required by 1/1/13) | App D 4.3.3                            | Yes, pages 39-46   | Yes   | While BAAQMD is meeting the requirement, Table 2-14 lists the number of required area-wide monitors for the San Francisco-Oakland-Hayward MSA as 1, and states in a footnote that while both a highest concentration site and an RA40 site are required, these may be met by the same site. As described in 40 CFR 58 App D 4.3.4(a), the RA40 required sites are in addition to the other minimum monitoring requirements, and the number of required area-wide sites for the MSA should therefore be 2. Please update this in next year's plan. |
| 48.   | Minimum monitoring requirements for susceptible and vulnerable populations monitoring (aka RA40) NO <sub>2</sub> (operation required by January 1, 2013)  | App D 4.3.4                            | Yes, pages 39-46   | Yes   | See comment for checklist item #47.   |
| 49.   | Identification of required NO <sub>2</sub> monitors as either near-road, area-wide, or vulnerable and susceptible population (aka RA40)   | 58.10 (b)(12)                          | Yes, pages 39-46   | Yes   |   |
| <b>NEAR ROADWAY – SPECIFIC MONITORING REQUIREMENTS</b>                                    |   |  |  |   |   |
| In CBSAs ≥ 2.5 million, the following near-roadway minimum monitoring requirements apply: |   |  |  |   |   |
| 50.   | Two NO <sub>2</sub> monitors  | App. D 4.3.2(a); 58.13(c)(3) and (4)   | Yes, page 45   | Yes   | For the San Francisco-Oakland-Hayward MSA, two near-road NO <sub>2</sub> monitors are operated at Laney College and Berkeley Aquatic Park. The Berkeley Aquatic Park monitor began operation in July 2016.  |
| 51.   | One CO monitor  | App. D 4.2.1(a); 58.13(e)(2)           | Yes, page 47   | Yes   | For the San Francisco-Oakland-Hayward MSA, two near-road CO monitors are operated at Laney College and Berkeley Aquatic Park.   |
| 52.   | One PM <sub>2.5</sub> monitor   | App. D 4.7.1(b)(2); 58.13(f)(2)        | Yes, page 27   | Yes   | For the San Francisco-Oakland-Hayward MSA, two near-road PM <sub>2.5</sub> monitors are operated at Laney College and Berkeley Aquatic Park.  |



|   | ANP requirement  | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|---|--|--|--|---|--|
| In CBSAs $\geq$ 1 million and AADT $\geq$ 250K, the following near-roadway minimum monitoring requirements apply:                     |  |  |  |   |  |
| 53.   | Two NO <sub>2</sub> monitors   | App. D 4.3.2(a); 58.13(c)(3) and (4)   | Yes, page 45   | Yes   | For the San Jose-Sunnyvale-Santa Clara MSA, one near-road NO <sub>2</sub> monitor is operated at San Jose-Knox.<br><br>This MSA recently surpassed the AADT requirement for a second near-road NO <sub>2</sub> monitor. BAAQMD has indicated that they will submit a plan for this monitor with their next network assessment. |
| 54.   | One CO monitor (by 1/1/2017)   | App. D 4.2.1(a); 58.13(e)(2)           | Yes, page 47   | Yes   | For the San Jose-Sunnyvale-Santa Clara MSA, one near-road CO monitor is operated at San Jose-Knox.   |
| 55.   | One PM <sub>2.5</sub> monitor (by 1/1/2017)  | App. D 4.7.1(b)(2); 58.13(f)(2)        | Yes, page 27   | Yes   | For the San Jose-Sunnyvale-Santa Clara MSA, one near-road PM <sub>2.5</sub> monitor is operated at San Jose-Knox.  |
| In CBSAs $\geq$ 1 million and $\leq$ 2.5 million AND AADT $<$ 250K, the following near-roadway minimum monitoring requirements apply: |  |  |  |   |  |
| 56.   | One NO <sub>2</sub> monitors   | App. D 4.3.2(a); 58.13(c)(3)           | NA   | NA  |  |
| 57.   | One CO monitor (by 1/1/2017)   | App. D 4.2.1(a); 58.13(e)(2)           | NA   | NA  |  |
| 58.   | One PM <sub>2.5</sub> monitor (by 1/1/2017)  | App. D 4.7.1(b)(2); 58.13(f)(2)        | NA   | NA  |  |
| <b>SO<sub>2</sub> –SPECIFIC MONITORING REQUIREMENTS</b>   |  |  |  |   |  |
| 59.   | Minimum monitoring requirements for SO <sub>2</sub> based on PWEI and/or RA required monitors under Appendix D 4.4.3 [Note: Only monitors considered to be required SLAMs are eligible to be counted towards meeting minimum monitoring requirements.] | App D 4.4                              | Yes, pages 36-38   | Yes   |  |
| 60.   | Monitors used to meet Data Requirements Rule (operational no later than January 1, 2017.)  | 51.1203(c)                             | Yes, pages 36-38, Appendix I                                 | Yes   | As shown in Appendix I of BAAQMD's plan, EPA approved the existing Martinez SLAMS SO <sub>2</sub> monitor to meet BAAQMD's requirement for monitoring under the Data Requirements Rule on December 6, 2016.  |



|   | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup>  | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|---|---|---|--|---|--|
| <b>NCORE –SPECIFIC MONITORING REQUIREMENTS</b>  |   |   |  |   |  |
| 61.   | NCORE site and all required parameters operational: year-round O <sub>3</sub> , SO <sub>2</sub> , CO, NO <sub>y</sub> , NO, PM <sub>2.5</sub> mass, PM <sub>2.5</sub> continuous, PM <sub>2.5</sub> speciation, PM <sub>10-2.5</sub> mass, resultant wind speed at 10m, resultant wind direction at 10m, ambient temperature, relative humidity. NO <sub>y</sub> waiver, if applicable. | App. D 3(b)   | Yes, pages 128-132, 161-165                                  | Yes   | EPA previously approved a waiver to use meteorological data from the San Jose Airport as official data for the NCore site.<br><br>BAAQMD has requested a waiver to replace NO <sub>y</sub> monitoring with NO <sub>x</sub> and this waiver has been approved by OAQPS. See checklist item #5 and Enclosure E.  |
| <b>SITE OR MONITOR - SPECIFIC REQUIREMENTS (OFTEN INCLUDED IN DETAILED SITE INFORMATION TABLES)</b> |   |   |  |   |  |
| 62.   | AQS site identification number for each site  | 58.10 (b)(1)  | Yes, Detailed Station Info                                   | Yes   |  |
| 63.   | Location of each site: street address and geographic coordinates  | 58.10 (b)(2)  | Yes, Detailed Station Info                                   | Yes   |  |
| 64.   | MSA, CBSA, CSA or other area represented by the monitor   | 58.10 (b)(8)  | Yes, Detailed Station Info                                   | Yes   |  |
| 65.   | Parameter occurrence code for each monitor  | Needed to determine if other requirements (e.g., min # and collocation) are met | Yes, Detailed Station Info                                   | Yes   | Please provide the POC for PM <sub>10-2.5</sub> at San Jose – Jackson in next year's plan.   |
| 66.   | Basic monitoring objective for each monitor   | App D 1.1; 58.10 (b)(6)   | Yes, Detailed Station Info                                   | Yes   | Crockett SO <sub>2</sub> , Oakland O <sub>3</sub> , San Pablo O <sub>3</sub> , and San Rafael O <sub>3</sub> are listed with a monitoring type of "NAAQS comparison" in the plan. These sites are all SPMs that do not meet siting requirements in Appendix E and therefore NAAQS comparison is not an appropriate objective. Please change the monitoring objective in next year's plan for these sites.<br><br>Similarly, the monitoring objective for Berkeley Aquatic Park O <sub>3</sub> should not be NAAQS comparison. See checklist item # 68. |



|     | ANP requirement  | Citation within 40 CFR 58 <sup>1</sup>  | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes   |
|-----|--|---|--|---|---|
| 67. | Site type for each monitor   | App D 1.1.1   | Yes, Detailed Station Info                                   | Incorrect in one instance   | <p>Livermore O<sub>3</sub> monitor is the highest in the CBSA, but is not listed as a “highest concentration” monitor site type. Livermore has consistently had the highest O<sub>3</sub> DVs in the San Francisco-Oakland-Hayward CBSA for many years. The site type for this monitor should be “highest concentration.”</p> <p>Otherwise, BAAQMD meets this requirement. However, the following two items require attention:</p> <p>EPA recommends that BAAQMD continue to evaluate whether Oakland West PM<sub>2.5</sub> monitor should have a “highest concentration” monitor site type. The monitor has been in operation since late 2012, and while it has only had two complete DVs, both were the highest DV for the CBSA. If Oakland West continues to have among the highest PM<sub>2.5</sub> DVs for the CBSA, a site type of “highest concentration” may be appropriate. Note that multiple monitors in a CBSA may have this site type and labeling Oakland West as such does not preclude other sites in the CBSA from having the same site type.</p> <p>EPA also recommends evaluating the site type for the Berkeley Aquatic Park O<sub>3</sub> monitor, in the context of other changes recommended in this checklist for that monitor. See checklist item #68.</p> |
| 68. | Monitor type for each monitor, and Network Affiliation(s) as appropriate | Needed to determine if other requirements (e.g., min # and collocation) are met | Yes, Detailed Station Info                                   | Incorrect in one instance   | <p>The Berkeley Aquatic Park O<sub>3</sub> monitor is listed as a SLAMS, but has not been approved as a SLAMS by EPA and does not meet siting requirements for a SLAMS O<sub>3</sub> monitor. This monitor should be listed as an SPM.</p> <p>Please also see checklist items 66, 67, and 69 for additional items related to this monitor.</p>  |

|     | <b>ANP requirement</b>  | <b>Citation within 40 CFR 58<sup>1</sup></b>                                    | <b>Was the information submitted?<sup>2</sup> If yes, page #s.</b> | <b>Does the information provided<sup>3</sup> meet the requirement?<sup>4</sup></b> | <b>Notes</b>  |
|-----|---|---|--|--|---|
| 69. | Scale of representativeness for each monitor as defined in Appendix D     | 58.10(b)(6); App D  | Yes, Detailed Station Info   | Yes  | <p>The Berkeley Aquatic Park O<sub>3</sub> monitor is listed as “urban” scale. Based on the distance to nearest road and traffic count, this monitor does not meet requirements for an urban scale O<sub>3</sub> monitor, and should be listed as micro or middle scale. Please update this in next year’s plan. See checklist item #68.</p> <p>Not requiring attention: note that the waiver for O<sub>3</sub> scale at the Napa site is automatically extended with the demonstration that the design value is not within 5ppb of any applicable NAAQS.</p> |
| 70. | Parameter code for each monitor   | Needed to determine if other requirements (e.g., min # and collocation) are met | Yes, Detailed Station Info   | Yes  |   |
| 71. | Method code and description (e.g., manufacturer & model) for each monitor | 58.10 (b)(3); App C 2.4.1.2   | Yes, Detailed Station Info   | Yes  |   |
| 72. | Sampling start date for each monitor                                      | Needed to determine if other requirements (e.g., min # and collocation) are met | Yes, Detailed Station Info   | Yes  |   |



|     | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|-----|---|--|--|---|--|
| 73. | Distance of monitor from nearest road   | App E 6                                | Yes, Detailed Station Info                                   | Yes   | The distance to road for Berkeley Aquatic Park currently says “approximately based on latest siting plans.” This site is now operational. Please update this in next year’s plan with the confirmed distance to the nearest road.<br><br>Not requiring attention: BAAQMD’s request for a spacing from roadway siting waiver for Napa’s ozone monitor is approved within this year’s ANP. |
| 74. | Traffic count of nearest road   | App E                                  | Yes, Detailed Station Info                                   | Yes   |  |
| 75. | Groundcover   | App E 3(a)                             | Yes, Detailed Station Info                                   | Yes   |  |
| 76. | Probe height  | App E 2                                | Yes, Detailed Station Info                                   | Insufficient to judge in one instance   | Probe height was not provided for the PM <sub>10</sub> collocated monitor at San Pablo.  |
| 77. | Distance from supporting structure (vertical and horizontal, if applicable, should be provided)   | App E 2                                | Yes, Detailed Station Info                                   | Yes   | The PM <sub>2.5</sub> monitor at San Jose – Knox is listed as >1m from supporting structure. All other BAAQMD PM <sub>2.5</sub> monitors list the distance from supporting structure as >2m. EPA also recommends all PM instruments be at least 2.0 ± 0.2 m from supporting structures. Please clarify the distance from supporting structure for this monitor in next year’s plan.      |
| 78. | Distance from obstructions on roof (horizontal distance to the obstruction and vertical height of the obstruction above the probe should be provided)     | App E 4(b)                             | Yes, Detailed Station Info                                   | Yes   |  |
| 79. | Distance from obstructions not on roof (horizontal distance to the obstruction and vertical height of the obstruction above the probe should be provided) | App E 4(a)                             | Yes, Detailed Station Info                                   | Yes   |  |
| 80. | Distance from the drip line of closest tree(s)  | App E 5                                | Yes, Detailed Station Info                                   | Not meeting requirement in one instance                                       | Monitors at San Jose – Knox are listed as 8m from the drip line of the closest trees, which does not appear to meet the requirement of at least 10m from the drip line.<br><br>Not requiring attention: the Crockett SO <sub>2</sub> SPM monitor is <10m from the drip line, however, this SPM is not required to meet Appendix E.   |

|     | ANP requirement   | Citation within 40 CFR 58 <sup>1</sup> | Was the information submitted? <sup>2</sup> If yes, page #s. | Does the information provided <sup>3</sup> meet the requirement? <sup>4</sup> | Notes  |
|-----|---|--|--|---|--|
| 81. | Distance to furnace or incinerator flue   | App E 3(b)                             | Yes, Detailed Station Info                                   | Yes   | Distances from flues are included in the plan. Without any indication in the plan otherwise, EPA assumes that the distance to the flue and fuel burned does not constitute an inappropriate source at these sites. |
| 82. | Unrestricted airflow (expressed as degrees around probe/inlet or percentage of monitoring path)                     | App E, 4(a) and 4(b)                   | Yes, Detailed Station Info                                   | Yes   | Please clarify whether the predominant wind direction is included in the 270 degrees of unobstructed airflow for Bethel Island in next year's plan.  |
| 83. | Probe material (NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; For PAMS: VOCs, Carbonyls) | App E 9                                | Yes, Detailed Station Info                                   | Yes   |  |
| 84. | Residence time (NO/NO <sub>2</sub> /NO <sub>y</sub> , SO <sub>2</sub> , O <sub>3</sub> ; For PAMS: VOCs, Carbonyls) | App E 9                                | Yes, Detailed Station Info                                   | Yes   |  |

### Public Comments on Annual Network Plan

|  |  |
|--|--|
| Were comments submitted to the S/L/T agency during the public comment period?  | Yes  |
| Were comments included in ANP submittal?   | Yes  |
| Were any of the comments substantive? If yes, which ones? If comments were not substantive provide rationale.  | No<br><br>Commenter asked to be pointed to information on monitoring systems in place with respect to refineries in the area. BAAQMD's response directed the commenter to where such information is discussed in the plan and how to request additional information from the agency. Comment did not indicate any inadequacy in the plan and no edits were suggested or requested. |
| Were S/L/T responses to substantive comments included in ANP submittal?  | NA (no substantive comments)   |
| Were the S/L/T responses to substantive comments adequate?   | NA   |
| Do the substantive comments require separate EPA response (i.e., agency response wasn't adequate)?   | NA   |
| Are the sections of the annual network plan that received substantive comments approvable after consideration of comments? If yes, provide rationale | NA   |



#### **D. EPA approval of the waiver request to locate PAMS at Livermore**

Bay Area Air Quality Management District (BAAQMD) has requested a waiver to locate PAMS measurements at the air monitoring site in Livermore (AQS ID: 06-001-0007) in lieu of locating these measurements at their NCore site, San Jose-Jackson (AQS ID: 06-085-0005) See the *2016 Air Monitoring Network Plan*, submitted June 2017, Appendix H.

Per 40 CFR 58, Appendix D, Section 5(a), monitoring agencies are required to collect and report PAMS measurements at each required NCore site located in a CBSA with a population of 1,000,000 or more. San Jose-Jackson meets these criteria. However, Section 5(c) allows the EPA Regional Administrator to grant a waiver to allow the collection of required PAMS measurements at an alternative location where the monitoring agency can demonstrate that the alternative location will provide representative data useful for regional or national scale modeling and the tracking of trends in O<sub>3</sub> precursors. In Region 9, this authority has been delegated to the Air Division Director and the Manager of the Air Quality Analysis Office.

BAAQMD's request states that the Livermore site has been the design value site for the Bay Area ozone nonattainment area since 2003-2005, and is therefore the critical site for any required attainment modeling and it would be more useful to have ozone precursor and meteorological measurements located at Livermore than at San Jose-Jackson. BAAQMD's request also states that they have conducted O<sub>3</sub> precursor measurements at the Livermore site since 2010, making it a better site to continue to assess trends in the concentration of these precursors.

EPA concurs with BAAQMD's assessment that locating PAMS measurements at Livermore will provide representative data useful for modeling and the tracking of O<sub>3</sub> precursor trends. Therefore, EPA approves the request for the waiver to locate PAMS measurements at Livermore rather than San Jose-Jackson.



## **E. EPA correspondence and approval of an NO<sub>y</sub> waiver at San Jose-Jackson**

Please see the attached memo and letter.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

OCT 11 2017

**MEMORANDUM**

**SUBJECT:** Request for OAQPS Approval: NO<sub>y</sub> Waiver for the Bay Area Air Quality Management District's San Jose-Jackson NCore Site

**FROM:** Matthew J. Lakin  
Acting Director, Air Division

**TO:** Richard A. Wayland  
Director, Air Quality Assessment Division

I am writing to transmit a request from the Bay Area Air Quality Management District (BAAQMD) for a waiver of the requirement for observations of total reactive nitrogen oxides (NO<sub>y</sub>) at the San Jose-Jackson National Core multi-pollutant monitoring (NCore) site (AQS ID: 06-085-0005). BAAQMD communicated this request in their *2016 Air Monitoring Network Plan* (Network Plan), submitted June 29, 2017. As you are aware, 40 CFR 58 Appendix D Section 3(b)(1) allows for the U.S. Environmental Protection Agency (EPA) Administrator to issue waivers to substitute nitrogen oxides (NO<sub>x</sub>) for required NO<sub>y</sub> monitoring at applicable NCore sites, which has been delegated to your office.

NO<sub>y</sub> monitoring is currently required for NCore and will be required for Photochemical Assessment Monitoring Stations (PAMS) beginning in June 2019 for BAAQMD. In Appendix H of their Network Plan, BAAQMD requested a waiver from EPA to locate required PAMS measurements at Livermore (AQS ID: 06-001-0007) rather than at San Jose-Jackson. BAAQMD is requesting this waiver because Livermore is important for regional modeling, as it is the maximum concentration and design value site for the Bay Area ozone (O<sub>3</sub>) nonattainment area. Making Livermore an official PAMS will also allow for better tracking of O<sub>3</sub> precursor trends, since it has operated as an unofficial PAMS for the past seven years. An initial assessment of BAAQMD's request suggests that it meets the criteria in 40 CFR 58 Appendix D Section 5(c) for the waiver. EPA Region 9 intends to address this request through the annual network plan approval.

BAAQMD is requesting a waiver from the NCore requirement for NO<sub>y</sub> at San Jose-Jackson in order to move the NO<sub>y</sub> instrument to Livermore, as part of the required PAMS measurements. Locating NO<sub>y</sub> at Livermore with PAMS rather than at San Jose-Jackson with NCore will allow for collocation of NO<sub>y</sub> with important O<sub>3</sub> precursor measurements. Additionally, BAAQMD has included analysis in their Network Plan, Appendix F, and in previous NO<sub>y</sub> waiver requests, showing little difference between NO<sub>y</sub> and NO<sub>x</sub> concentrations at San Jose-Jackson.

Based on our position on BAAQMD's waiver request to locate PAMS at Livermore, as well as your approval of NO<sub>y</sub> waivers for other agencies under similar circumstances, we recommend that you approve BAAQMD's request for an NO<sub>y</sub> waiver at San Jose-Jackson.

If you have any questions regarding this letter, please feel free to contact me at (415) 972-3851, or Anna Mebust of my staff at (415) 972-3265.

cc: (via email): Tim Hanley, OAQPS





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
RESEARCH TRIANGLE PARK, NC 27711

October 30, 2017

OFFICE OF  
AIR QUALITY PLANNING  
AND STANDARDS

Eric Stevenson  
Director of Technical Services  
Bay Area Air Quality Management District  
375 Beale Street, Suite 600  
San Francisco, CA 94105

Dear Mr. Stevenson:

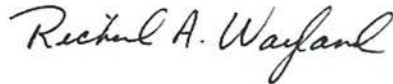
This letter transmits our approval of the Bay Area Air Quality Management District (BAAQMD) request to shut down the agencies' NO<sub>y</sub> monitor in concert with continued operation of a NO<sub>x</sub> monitor at the San Jose-Jackson Street NCore station (AQS site ID: 06-085-0005). This request is being made so that the NO<sub>y</sub> monitor can be installed and operated at the proposed PAMS station in Livermore, California (AQS site ID: 06-001-0007). Requests to allow monitoring for NO<sub>x</sub> instead of NO<sub>y</sub> at NCore stations are covered in our monitoring regulations (see Appendix D to Part 58, Section 3. (b)(1)). According to these rules, a waiver for measuring NO<sub>x</sub> in lieu of NO<sub>y</sub> must be approved by the Environmental Protection Agency's (EPA) Administrator. This authority has been delegated to the Director of the Air Quality Assessment Division in EPA's Office of Air Quality Planning and Standards.

In considering your request to operate NO<sub>x</sub> in lieu of NO<sub>y</sub> at the San Jose-Jackson Street NCore station, we worked with EPA Region 9 on an evaluation of the NO<sub>y</sub> and NO<sub>x</sub> data at the San Jose-Jackson Street station and a review of the rationale for why the proposed PAMS station is better suited for NO<sub>y</sub> measurements. After careful consideration of your request to move the NO<sub>y</sub> monitor to the proposed PAMS station in Livermore and operate NO<sub>x</sub> at San Jose-Jackson Street we are pleased to approve the shut-down of NO<sub>y</sub> at the San Jose-Jackson Street NCore station. We note that PAMS measurements are required to operate minimally during June, July, and August, while NCore measurements are required to operate year-round. Since the Livermore site would be the only BAAQMD location with both NO<sub>y</sub> and true NO<sub>2</sub>, we expect that you will operate these measurements year-round. Let us know if this is not possible.

The strength of the rationale to prioritize operation of NO<sub>y</sub> at Livermore over San Jose-Jackson Street is that it allows for collocating NO<sub>y</sub> with a true NO<sub>2</sub> monitor at Livermore. This collocation of NO<sub>y</sub> and true NO<sub>2</sub> will ensure that calculations of NO<sub>z</sub> are made with the most appropriate monitoring technologies. This is consistent with our authority to allow such a waiver since differences between NO<sub>y</sub> and true NO<sub>2</sub> + NO are expected to be larger than differences between NO<sub>y</sub> and NO<sub>x</sub> chemiluminescence monitors, as is the case for the existing monitors at San Jose-Jackson Street.

Thank you for your program's efforts in working through the issue of optimizing your network to meet multiple needs at NCore and PAMS. For any technical questions on NCore, you may contact Tim Hanley at [hanley.tim@epa.gov](mailto:hanley.tim@epa.gov) and 919-541-4417. For technical questions on PAMS, you may contact Kevin Cavender at [cavender.kevin@epa.gov](mailto:cavender.kevin@epa.gov) and 919-541-2364.

Sincerely,

A handwritten signature in cursive script that reads "Richard A. Wayland".

Richard A. Wayland  
Director  
Air Quality Assessment Division

cc: Matthew J. Lakin, EPA Region 9